

Reply to Office Action dated December 17, 2004

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

29 1. (Currently Amended) A plasma display panel wherein an address interval for selecting discharge cells is included, and a display area and a non-display area co-exist, said panel comprising:

scanning/sustaining electrodes provided at each discharge cell;

common sustaining electrodes formed in parallel to the scanning/sustaining electrodes at each discharge cell; and

at least two dummy electrodes, being provided at the non-display area outside an effective display part of the plasma display panel, for supplying the non-display area with charged particles in the address interval.

2. (Previously Presented) The plasma display panel as claimed in claim 1, further comprising:

a dummy electrode driver that applies a dummy pulse to the dummy electrodes during the address interval to cause a discharge between the dummy electrodes.

3. (Previously Presented) The plasma display panel as claimed in claim 2, wherein the discharge cells are supplied with charged particles produced by said discharge between the dummy electrodes.

4. (Previously Presented) The plasma display panel as claimed in claim 1, wherein the dummy electrodes are formed in parallel to the scanning/sustaining electrodes and the common sustaining electrodes.

5. (Previously Presented) The plasma display panel as claimed in claim 1, wherein the common sustaining electrodes maintain a ground potential in the address interval.

6. (Currently Amended) A plasma display panel wherein an address interval for selecting discharge cells is included, and a display area and a non-display area co-exist, said panel comprising:

a dummy electrode driver for applying a dummy pulse to dummy electrodes such that the dummy electrodes formed at the non-display area outside an effective display part of the plasma display panel can cause a first auxiliary discharge in the address interval; and

a scanning/sustaining driver for sequentially applying an auxiliary pulse and a scanning pulse to scanning/sustaining electrodes such that the scanning/sustaining electrodes formed at the display area can sequentially cause a second auxiliary discharge and an address discharge in the address interval.

7. (Previously Presented) The plasma display panel as claimed in claim 6, wherein the discharge cells within an effective display part are supplied with charged particles produced during the first auxiliary discharge.

8. (Previously Presented) The plasma display panel as claimed in claim 6, wherein the auxiliary pulse has a positive polarity and the scanning pulse has a negative polarity.

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9. (Currently Amended) A method of driving a plasma display panel comprising :
applying a different polarity of pulses to scanning/sustaining electrodes in an address interval; and

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applying a pulse to a dummy electrode located in a non-display area outside a circumference of a display area of said plasma display panel and thus outside an effective display part of the plasma display panel.

10. (Previously Presented) The method as claimed in claim 9, further comprising:
applying an auxiliary pulse to the scanning/sustaining electrodes to produce charged particles within discharge cells in an address interval; and

applying a data pulse applied to the address electrodes and a scanning pulse to scanning/sustaining electrodes after application of an auxiliary pulse to cause an address discharge.

11. (Previously Presented) The method as claimed in claim 10, wherein the auxiliary pulse has a positive polarity and the scanning pulse has a negative polarity.

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12. (Currently Amended) A method of driving a plasma display panel comprising:
applying a dummy pulse to dummy electrodes positioned [[20]] at a non-display

area outside an effective display part of the plasma display panel causing a first auxiliary discharge that supplies discharge cells with charged particles;

Applying a positive auxiliary pulse and a negative scanning pulse to scanning/sustaining electrodes positioned at a display area in an address interval causing a second auxiliary discharge and an address discharge; and

Applying a data pulse synchronized with the scanning pulse to address electrodes arranged perpendicularly to the scanning/sustaining electrodes causing said address discharge between the address electrodes and the scanning/sustaining electrodes.

13. (Previously Presented) The plasma display panel as claimed in claim 1, further comprising address electrodes perpendicular to said scanning/sustaining electrodes and said common sustaining electrodes.

14. (Previously Presented) The plasma display panel as claimed in claim 1, wherein said at least two dummy electrodes supply said non-display area with charged particles.

15. (Previously Presented) The plasma display panel as claimed in claim 14, wherein said charged particles are formed during an address interval.

16. (Previously Presented) The plasma display panel as claimed in claim 1, wherein said non-display does not include any discharge cells.

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17. (Previously Presented) The plasma display panel as claimed in claim 1, wherein said non-display area is outside of a circumference of said display area.

18. (Previously Presented) The plasma display panel as claimed in claim 1, wherein an auxiliary discharge is formed by said at least two dummy electrodes in said non-display area.

19. (Previously Presented) The plasma display panel as claimed in claim 1, wherein a first of said at least two dummy electrodes provides a first dummy pulse which is provided during a negative scanning pulse of said scanning/sustaining electrode.

20. (Currently Amended) ~~The plasma display panel as claimed in claim 1, A plasma display panel wherein an address interval for selecting discharge cells is included, and a display area and a non-display area co-exist, said panel comprising:~~

scanning/sustaining electrodes provided at each discharge cell;

common sustaining electrodes formed in parallel to the scanning/sustaining electrodes at each discharge cell; and

at least two dummy electrodes, being provided at the non-display area for supplying
the non-display area ^{and the display area} with charged particles in the address interval, wherein said at least two dummy electrodes comprise a first and a second dummy electrode, wherein said first dummy electrode alternates forming pulses with said second dummy electrode.

21. (Previously Presented) The plasma display panel as claimed in claim 6, wherein the scanning pulse has a pulse width shorter than that of the auxiliary pulse.

22. (Previously Presented) The plasma display panel as claimed in claim 21, wherein said charged particles are formed during an address interval.

23. (Previously Presented) The plasma display panel as claimed in claim 6, wherein said non-display does not include any discharge cells.

24. (Previously Presented) The plasma display panel as claimed in claim 6, wherein said non-display area is outside of a circumference of said display area.

25. (Previously Presented) The plasma display panel as claimed in claim 6, wherein an auxiliary discharge is formed by said at least two dummy electrodes in said non-display area.

26. (Previously Presented) The plasma display panel as claimed in claim 6, wherein a first of said at least two dummy electrodes provides a first dummy pulse which is provided during a negative scanning pulse of said scanning/sustaining electrode.

27. (Currently Amended) ~~The plasma display panel as claimed in claim 6,~~ A plasma display panel wherein an address interval for selecting discharge cells is included, and a display area and a non-display area co-exist, said panel comprising:

a dummy electrode driver for applying a dummy pulse to dummy electrodes such that the dummy electrodes formed at the non-display area can cause a first auxiliary discharge in the address interval; and

a scanning/sustaining driver for sequentially applying an auxiliary pulse and a scanning pulse to scanning/sustaining electrodes such that the scanning/sustaining electrodes formed at the display area can sequentially cause a second auxiliary discharge and an address discharge in the address interval, wherein said at least two dummy electrodes comprise a first and a second dummy electrode, wherein said first dummy electrode alternates forming pulses with said second dummy electrode.

28. (Currently Amended) ~~The method as claimed in claim 9, further comprising:~~ A method of driving a plasma display panel comprising:

applying a different polarity of pulses to scanning/sustaining electrodes in an address interval; and

applying a pulse to a dummy electrode located in a non-display area outside a circumference of a display area of said plasma display panel; and */ in synch - while scanning pulse*

applying an alternate dummy pulse to a dummy electrode while said scanning pulse is applied to said scanning/sustaining electrodes.

29. (Previously Presented) The method as claimed in claim 28, further comprising:
forming a priming discharge by applying a pulse to a dummy electrode located
outside of a display area of said plasma display panel.

30. (Previously Presented) The method as claimed in claim 28, further comprising:
forming an auxiliary discharge in a non-display area of said plasma display panel.

31. (Previously Presented) The method as claimed in claim 19, further comprising:
forming a priming discharge by applying a pulse to a dummy electrode located
outside of a display area of said plasma display panel.

32. (Currently Amended) ~~The method as claimed in claim 12, further comprising:~~ A
method of driving a plasma display panel comprising:

applying a dummy pulse to dummy electrodes positioned at a non-display area
causing a first auxiliary discharge that supplies discharge cells with charged particles;

applying a positive auxiliary pulse and a negative scanning pulse to
scanning/sustaining electrodes positioned at a display area in an address interval causing a
second auxiliary discharge and an address discharge;

applying a data pulse synchronized with the scanning pulse to address electrodes
arranged perpendicularly to the scanning/sustaining electrodes causing said address discharge
between the address electrodes and the scanning/sustaining electrodes; and

applying an alternate dummy pulse to a dummy electrode while said scanning pulse is applied to said scanning/sustaining electrodes.

33. (Previously Presented) The method as claimed in claim 13, further comprising:
forming a priming discharge by applying a pulse to a dummy electrode located outside of a display area of said plasma display panel.

34. (Previously Presented) The method as claimed in claim 12, further comprising:
forming an auxiliary discharge in a non-display area of said plasma display panel.

35. (Previously Presented) The method as claimed in claim 12, further comprising:
forming a priming discharge by applying a pulse to a dummy electrode located outside of a display area of said plasma display panel.

36. (Currently Amended) A plasma display panel, comprising:
scanning/sustaining electrodes;
common sustaining electrodes formed in parallel to said scanning/sustaining electrodes;
dummy electrodes formed in parallel to said scanning/sustaining electrodes and said common sustaining electrodes at a non-display area outside an effective display part of the plasma display panel;

a dummy electrode driver that applies a dummy pulse to said dummy electrodes causing a first auxiliary discharge in an address interval; and

a scanning/sustaining driver that sequentially applies an auxiliary pulse and a scanning pulse to said scanning/sustaining electrodes sequentially causing a second auxiliary discharge and an address discharge in the address interval, wherein said common sustaining electrodes maintain a ground potential in the address interval.

37. (Previously Presented) The plasma display panel as claimed in claim 36, further comprising discharge cells within an effective display part, wherein said discharge cells are supplied with charged particles produced during the first auxiliary discharge.

38. (Previously Presented) The plasma display panel as claimed in claim 36, wherein said auxiliary pulse has a positive polarity and said scanning pulse has a negative polarity.
